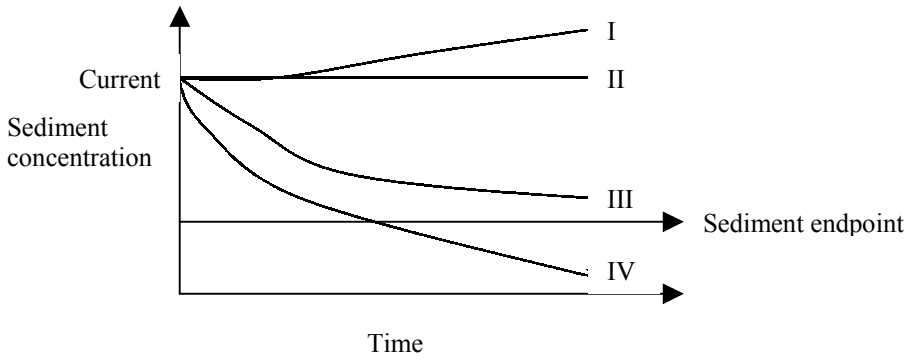
Proposed Modeling Isolation Scenario Strategy to Support TMDL Analyses for Metals in the Baltimore Harbor
Draft

General:

- All scenarios are long-term simulations, at least 10 years.
- All scenarios use appropriate parameters
- All scenarios start with current contaminated bottom sediments (Baltimore Harbor Sediment Mapping Study)
- All scenario results must be interpreted in terms of 4 broad outcomes:
    - I – sediment concentrations increase
    - II – no change in sediment concentration
    - III – sediment concentrations decrease but still above endpoint
    - IV – sediment concentrations decrease and below endpoint



Proposed Scenarios:

Source	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Point source	On	Off	Off	On	On
Nonpoint source	On	Off	On	Off	On
Bay source	On	Off	On	On	Off

Scenario 1: Baseline loading

- Outcome I – need to think about source control scenario. Go to Scenario 2.
- Outcome II - need to think about source control scenario. Go to Scenario 2.
- Outcome III – Are the harbor sediments assimilating past and present loads? Indication of legacy problem. Go to Scenario 2.
- Outcome IV – Natural recovery. Develop detailed scenario runs for the maximum assimilation of the Harbor.

Scenario 2: Everything from Bottom sediments?

- Outcome I – Legacy. Develop Sediment remediation strategies.
- Outcome II –Legacy. Develop Sediment remediation strategies.
- Outcome III – Develop Source (Point+Nonpoint+Bay) control options + sediment remediation strategies.
- Outcome IV – Develop Source (Point+Nonpoint+Bay) control options (Scenario 3).

Scenario 3: Point source control

- Outcome I – which area? Hydrodynamic flow pattern plays an important role in contaminant transport. Develop detailed source control options in individual subwatershed.
- Outcome II – Point sources are not important comparing to other sources. Develop detailed nonpoint source load allocation scenarios.
- Outcome III – Point Sources are important comparing to other sources. Develop detailed point source + Nonpoint source load allocation scenarios.
- Outcome IV – Point Sources are important comparing to other sources. Develop detailed point source load allocation scenarios.

Scenario 4: Nonpoint source control

- Outcome I – which area? Hydrodynamic flow pattern plays an important role in contaminant transport. Develop detailed source control options in individual subwatershed.
- Outcome II – Nonpoint sources are not important comparing to other sources. Develop detailed point source load allocation scenarios.
- Outcome III – Nonpoint Sources are important comparing to other sources. Develop detailed point source + Nonpoint source load allocation scenarios.
- Outcome IV – Nonpoint Sources are important comparing to other sources. Develop detailed point source load allocation scenarios.

Scenario 5: Bay source control

- Outcome I – Bay source is not important comparing to other sources. which area? Hydrodynamic flow pattern plays an important role in contaminant transport. Develop detailed Nonpoint + point source control options in individual subwatershed.
- Outcome II – Bay source is not important comparing to other sources. Develop detailed Nonpoint + point source control options in individual subwatershed.

- Outcome III – Bay Source is important comparing to other sources. Develop detailed Bay Source + point source + Nonpoint source load allocation scenarios.
- Outcome IV – Bay Source is important comparing to other sources. Develop detailed Bay Source + point source + Nonpoint source load allocation scenarios.